



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,833	07/20/2005	Jusheng Wu	05503-PCT	1102

33804 7590 10/27/2008
LIN & ASSOCIATES INTELLECTUAL PROPERTY, INC.
P.O. BOX 2339
SARATOGA, CA 95070-0339

EXAMINER

KWIECINSKI, RYAN D

ART UNIT	PAPER NUMBER
----------	--------------

3635

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

10/27/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jason.lin@linassociatesip.com
jasonzlin@gmail.com

Office Action Summary	Application No. 10/526,833	Applicant(s) WU ET AL.	
	Examiner RYAN D. KWIECINSKI	Art Unit 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4, 8-9, 11, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,479,112 B1 to Shukuri et al.

Claims 1-4 and 8:

Regarding claim 1, Shukuri et al. disclose a method of fixing support means disposed within an evacuated glass panel (Fig.10), said evacuated glass panel including at least two planar glass sheets (1A, 1B, Fig.10) having support means (3, Fig.10) disposed therein, said method comprising at least the following steps of:

applying a solution layer (7, Fig.14) on a surface of a first planar glass sheet;
placing said support means on said solution layer (Column 11, lines 31-45)
above said first planar glass sheet;

covering an upper surface of said support means with a second planar glass sheet (Fig.10); and

heating said solution layer to dry so as to fix said support means between said first and second planar glass sheets (Column 12, lines 1-10).

Regarding claim 2, wherein the solution layer partly covers (Fig.14) said surface of said first planar glass sheet.

Regarding claim 3, wherein the solution layer is applied by way of printing (Column 11, lines 10-15).

Regarding claim 4, wherein the solution layer is an inorganic solution layer (Column 11, line 1).

Regarding claim 8, wherein said drying manner is oven drying (Column 11, lines 30-35).

Claim 9, 11, and 14:

Regarding claim 9, Shukuri et al. disclose an evacuated glass panel (Fig.10), manufactured by the method according to claim 1 (see claim 1 above), comprising a top planar glass sheet (1B, Fig.10), a bottom planar glass sheet (1A, Fig.10), support means (3, Fig.10), and a seal component (6, Fig.10) around a periphery of said top and bottom planar glass sheet, wherein said support means are disposed between said top and bottom planar glass sheets (3, Fig.10); said support means is adhered to an upper surface of said bottom planar glass sheet through a residual solution layer (7, Fig.14); and a cavity between said top and bottom planar glass sheet is an evacuated space (Column 10 ,lines 60-61);

Regarding claim 11, wherein said support means comprise a plurality of support members each being a solid pillar (Fig.2-8).

Regarding claim 14, wherein said residual solution layer is an adherent layer formed after volatilization of a non-organic solution (7, Fig.14); said adherent layer partly covers said upper surface of said bottom planar glass sheet (7, Fig.7);

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,479,112 B1 to Shukuri et al.

Claim 17:

Shukuri et al. disclose the evacuated panel according to claim 9, wherein said seal component is an edge frame component sealed and jointed vertically around said periphery of said top and bottom planar glass sheets.

Shukuri et al. do not specifically disclose the seal component affixed by sintering low melting point glass powders applied on an inner side of the side edge frame component.

Shukuri et al. do disclose the frame component formed from low melting point glass (Column 10, lines 31-32) and also disclose the use of low melting point glass frit to secure the support members to the glass (Column 11, lines 1-15) and also the process of sintering (Column 15, lines 50-60) to affix the support members to the glass sheets.

Art Unit: 3635

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have affixed the seal component to the glass sheets using the sintering process and low melting point glass powders. Shukuri et al. discloses the materials and the process for securing the materials to the glass sheets so it would have been obvious to employ the process of sintering with the low melting point glass seal since it is a known process in the art of evacuated glass panels.

Claim 18:

Shukuri et al. disclose the panel of claim 17, wherein said seal component is a glass strip (6, Fig.10).

Claims 5-6 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,479,112 B1 to Shukuri et al. in view of US 6,365,242 B1 to Veerasamy.

Claims 5-6 and 15-16:

Shukuri et al. disclose the method of claim 4 and the glass panel of claim 14, but does not directly disclose wherein said organic solution layer is rosin spirits and said non-organic solution layer is indium oxide.

Veerasamy does not directly disclose using the rosin spirits or the indium oxide as solution layers for the support means but does disclose using these solutions to aid in the hermetic sealing and bonding process of the peripheral seal of the glass panel.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the organic and non-organic solutions of Veerasamy to fix the support means of the glass panel of Shukuri et al. to the upper surface of the bottom glass panel. The materials are known solutions that help in the bonding of the glass materials to one another in order to form a secure bond.

Claims 7, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,479,112 B1 to Shukuri et al. in view of US 5,270,084 to Parker.

Claims 7 and 10:

Shukuri et al. disclose method of claim 1 and the glass panel of claim 9 but does not disclose the planar sheet on which the support means is disclose to be a top sheet or an intermediate sheet.

Parker discloses three layers of planar glass sheets with intermediate sheet (A, Fig.6) having support means disposed on both sides in both cavities (23,25, Fig.6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the glass panel of Shukuri et al. with three planar glass sheets in order to enhance the thermal and heat transfer properties of the glass panel. It is notoriously well know that the thermal properties increase as another sheet of glass as well as another evacuated cavity is formed in the overall glass panel.

Art Unit: 3635

Claim 12:

Shukuri et al. in view of Parker disclose the glass panel of claim 10, Shukuri et al. also disclose said support means comprise a plurality of support members uniformly disposed on said upper surface of said bottom planar glass sheet (3, Fig.10).

Parker also discloses said upper support means comprise a plurality of support members uniformly disposed on said upper surface of said top planar glass sheet (Parker discloses support members on the upper surface of A, Fig. 5-7, Fig.2).

Claims 11 and 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,479,112 B1 to Shukuri et al. in view of US 5,512,341 to Newby et al.

Claim 11 and 13:

Shukuri et al. disclose the glass panel of claims 9, Shukuri discloses said support means is a hollow pillar, but does not disclose the hollow pillar has a hole in a side surface of the pillar.

Newby et al. disclose a hollow support means (6, Fig.2) with a hole (16, Fig.2) in a side surface.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the glass panel of Shukuri et al with hollow support means with a hole in the side of the support means in order to connect the interior hollow portion with the cavity of the glass panel. The hole allows the support means to be filled with desiccant which will ensure the evacuated cavity remains moisture free. It

Art Unit: 3635

is notoriously well known to include support means in the inter cavities of glass panels which have an interaction with the cavity in order to provide materials such as desiccants.

Response to Arguments

Applicant's arguments filed 25 June 2008 have been fully considered but they are not persuasive.

The amendments to the claims have overcome the objections and the rejections under 112 second.

Applicant argues the process of the claimed invention is different than the process of Shukuri et al. in that the support means are not affixed firmly on the planar glass sheet during the manufacturing process.

The claims of the present application do not impose a specific order on the performance of the method steps. Therefore Shukuri et al. do in fact disclose the limitations of the present application. Shukuri et al disclose providing two planar glass sheets with support members between the glass sheets and heating the glass panel to affix the support members to the glass sheets.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3635

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN D. KWIECINSKI whose telephone number is (571)272-5160. The examiner can normally be reached on Monday - Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basil Katcheves can be reached on (571)272-6846. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3635

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RDK

/Ryan D Kwiecinski/
Examiner, Art Unit 3635

/Basil Katcheves/

Primary Examiner, Art Unit 3635